This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Please amend the claims as follows:

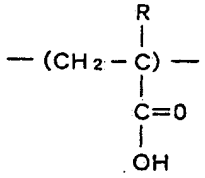
1-54. (Cancelled)

55. (Currently amended) A highly stable polymer comprising a polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound until ~~the~~ an isocyanate ~~compound~~ group, as measured by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present, and then adding an alcohol.

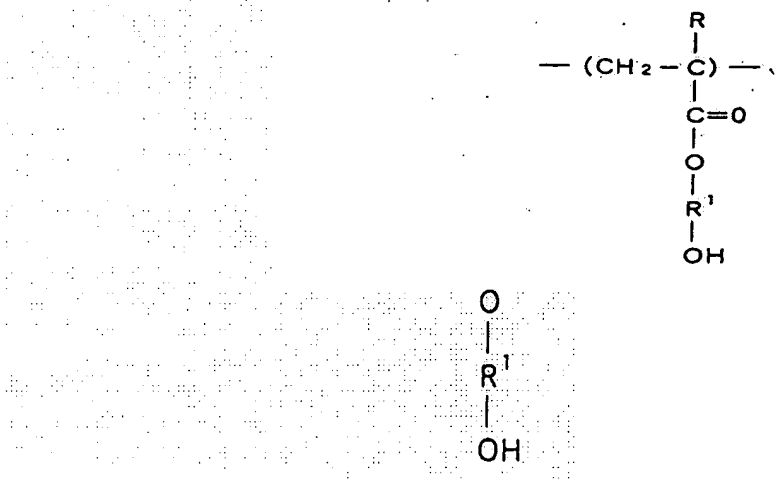
56. (Cancelled)

57. (Previously Presented) The highly stable polymer according to claim 55, wherein the principal chain comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below-mentioned formula (2):

Formula (1)



Formula (2)



wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms.

58. (Previously Presented) The highly stable polymer according to claim 55, wherein the isocyanate compound has a reactive group other than the isocyanate group.

59. (Previously Presented) The highly stable polymer according to claim 58, wherein the isocyanate group is a radical polymerizable group-containing isocyanate compound.

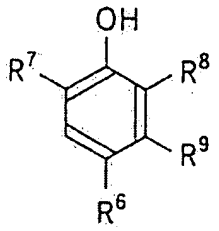
60. (Previously Presented) The highly stable polymer according to claim 55, wherein the principal chain part of the highly stable resin is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator.

61. (Previously Presented) The highly stable polymer according to claim 60, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

62. (Previously Presented) The highly stable polymer according to claim 60, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

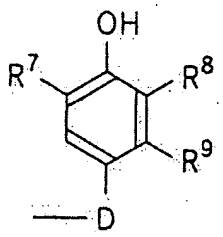
63. (Previously Presented) The highly stable polymer according to claim 55, wherein the isocyanate compound is introduced in the principal chain part of the highly stable resin, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



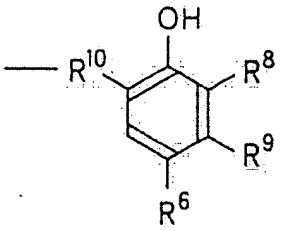
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



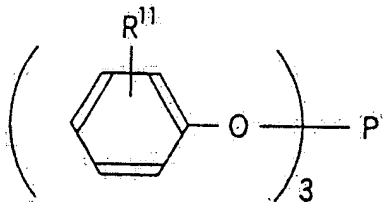
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, and substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having to 20 carbon atoms.

64. (Previously Presented) The highly stable polymer according to claim 63, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

65. (Previously Presented) The highly stable polymer according to claim 63, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

66. (Currently amended) A production method for a highly stable polymer comprising the steps of reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound until an ~~the~~ isocyanate group ~~compound~~, as measured by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present, and then adding an alcohol.

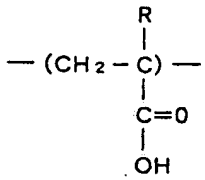
67. (Currently amended) The production method for a highly stable polymer according to claim 66, wherein the alcohol is added to the solution of the polymer obtained by reacting the ~~material~~ polymer and the isocyanate compound dissolved or dispersed in a solvent before viscosity rise of the solution or before completion of viscosity rise of the solution.

68. (Previously Presented) The production method for a highly stable polymer according to claim 67, wherein the polymer applied with the alcohol treatment are left or heated for a predetermined time for maturation after the addition of the alcohol.

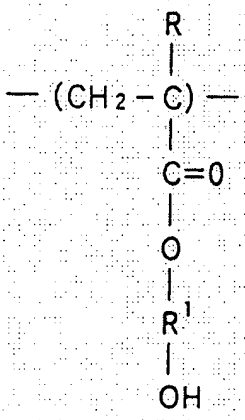
69. (Previously Presented) The production method for a highly stable polymer according to claim 68, wherein the polymer is matured at 30 to 170 °C for a period within 72 hours.

70. (Currently amended) The production method for a highly stable polymer according to claim 66, wherein the principal chain of the ~~material~~ polymer comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below-mentioned formula (2):

Formula (1)



Formula (2)



wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms.

71. (Previously Presented) The production method for a highly stable polymer according to claim 66, wherein the isocyanate compound has a reactive group other than the isocyanate group.

72. (Previously Presented) The production method for a highly stable polymer according to claim 71, wherein the isocyanate group is a radical polymerizable group-containing isocyanate compound.

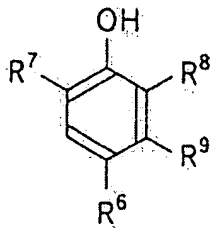
73. (Currently amended) The production method for a highly stable polymer according to claim 66, wherein a compound having a double bond-containing group and an acidic functional group is reacted with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator so as to prepare the ~~material~~ polymer, and the ~~material~~ polymer is reacted with the isocyanate compound.

74. (Previously Presented) The production method for a highly stable polymer according to claim 73, wherein a highly stable resin with the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm being 60% or more is obtained.

75. (Previously Presented) The production method for a highly stable polymer according to claim 73, wherein a highly stable resin with the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more is obtained.

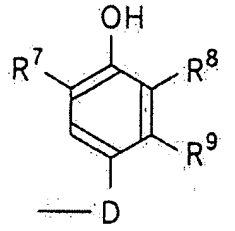
76. (Currently amended) The production method for a highly stable polymer according to claim 66, wherein the isocyanate compound is reacted with the ~~material~~ polymer, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



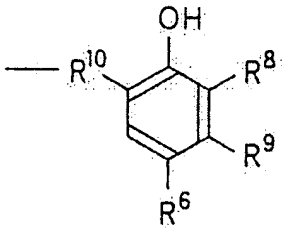
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



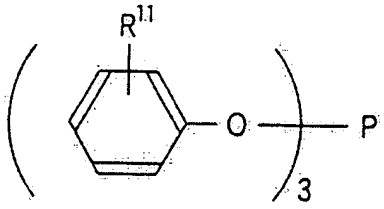
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below:

Formula (12)



wherein R^{10} in the formula (12) is a alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms, however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group. Moreover, substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having 1 to 20 carbon atoms.

77. (Previously Presented) The production method for a highly stable polymer according to claim 76, wherein a highly stable resin with the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm being 60% or more is obtained.

78. (Previously Presented) The production method for a highly stable polymer according to claim 76, wherein a highly stable resin with the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more is obtained.

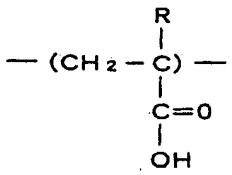
79. (Cancelled).

80. (Currently amended) The hardenable resin composition according to claim 103 ~~79~~, wherein the hardenable polymer is obtained by reacting the ~~material~~ polymer with the isocyanate compound and the alcohol, and further being left or heated for a predetermined time for maturation.

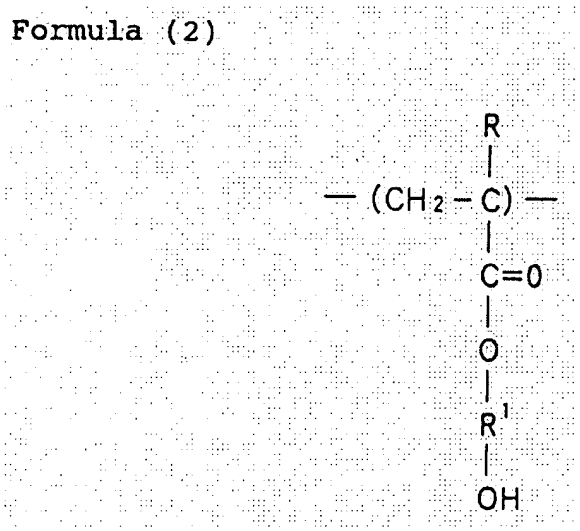
81. (Currently amended) The hardenable resin composition according to claim 103 ~~79~~, containing as the essential component the hardenable polymer dissolved or dispersed in a coating solvent, wherein the hardenable polymer is obtained by reacting the ~~material~~ polymer with the isocyanate compound, and further reacting the same with ,an alcohol having a boiling point with a 75°C or less difference with respect to the boiling point of the coating solvent to be used and/or an evaporation rate with a 90 (n-BuOAc=100) or less difference with respect to the evaporation rate of the coating solvent.

82. (Currently amended) The hardenable resin composition according to claim 103 ~~79~~, wherein, the principal chain of the ~~material~~ polymer comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below mentioned formula (2) :

Formula (1)



Formula (2)

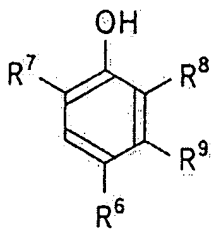


wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms, and

the isocyanate compound is a radical polymerizable group-containing isocyanate compound.

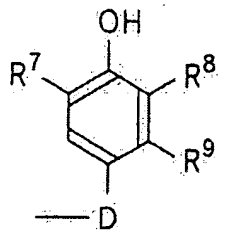
83. (Currently amended) The hardenable resin composition according to claim 103 ~~79~~, wherein the ~~material~~ polymer is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator, and the ~~material~~ polymer is reacted with the isocyanate compound, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



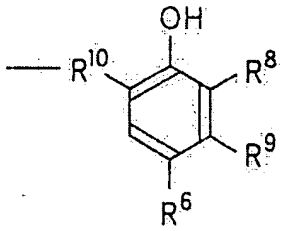
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



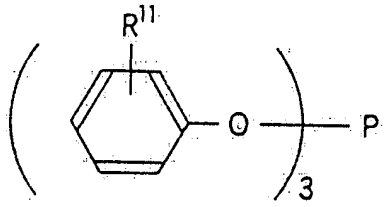
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms, however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, moreover, substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having 1 to 20 carbon atoms.

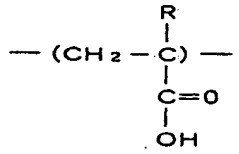
84. (Previously Presented) The hardenable resin composition according to claim 83, wherein the hardenable resin polymer has a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm being 60% or more.

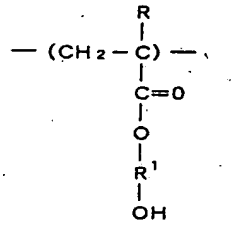
85. (Previously Presented) The hardenable resin composition according to claim 83, wherein the hardenable resin polymer has a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more.

86. (Cancelled).

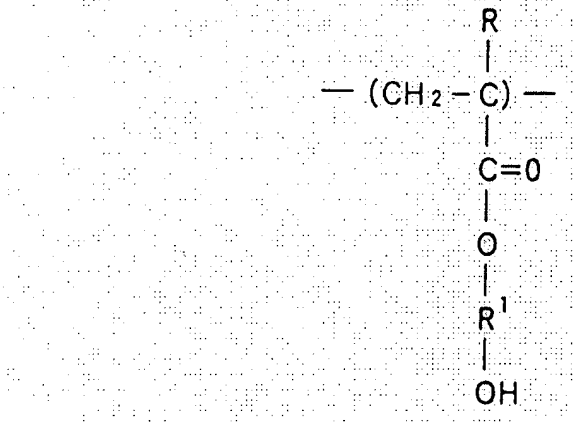
87. (Currently amended) The production method for a hardenable resin composition according to claim 105 ~~86~~, wherein the principal chain of the ~~material~~ polymer comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below-mentioned formula (2) :

Formula (1)





Formula (2)

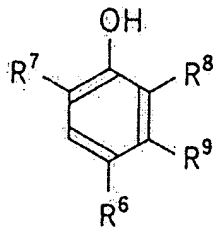


wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms,

the isocyanate compound is a radical polymerizable group-containing isocyanate compound, and the polymer is matured at 30 to 170 °C for a period within 72 hours.

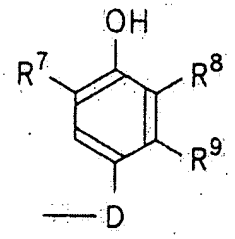
88. (Currently amended) The production method for a hardenable resin composition according to claim 105 ~~86~~, wherein the ~~material~~ polymer is prepared by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator, and the ~~material~~ polymer is reacted with the isocyanate compound, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



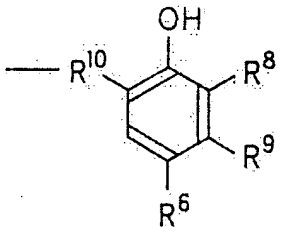
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



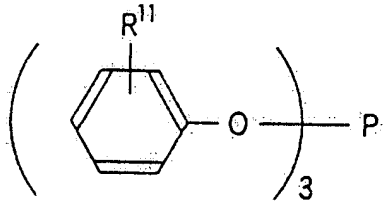
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms, however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, moreover, substituents of the same numeral can either be same or different

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having 1 to 20 carbon atoms.

89. (Currently amended) The production method for a hardenable resin composition according to claim 88, wherein a polymer having a light transmittance of a 3-methoxy butyl

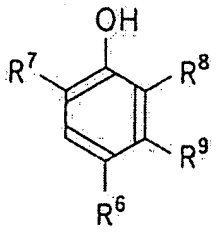
acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm being 60% or more is prepared by reacting the ~~material~~ polymer with an isocyanate compound, and applying the alcohol treatment to the polymer.

90. (Currently amended) The production method for a hardenable resin composition according to claim 88, wherein a polymer having a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more is prepared by reacting the ~~material~~ polymer with an isocyanate compound, and applying the alcohol treatment to the polymer.

91. (Cancelled).

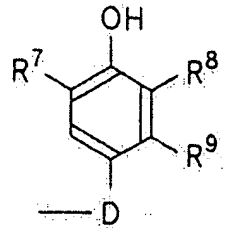
92. (Currently amended) The production method for a hardenable resin composition according to claim 105 ~~91~~, wherein the ~~material~~ polymer is prepared by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator, and the ~~material~~ polymer is reacted with the isocyanate compound, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



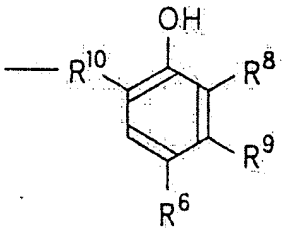
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



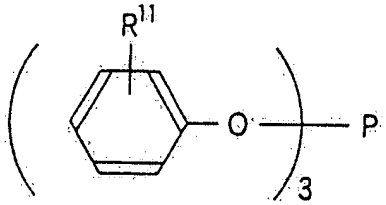
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms, however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, moreover, substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having 1 to 20 carbon atoms.

93. (Currently amended) The production method for a hardenable resin composition according to claim 92, wherein a polymer having a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at

400 nm being 60% or more is prepared by reacting the ~~material~~ polymer with an isocyanate compound, and applying the alcohol treatment to the polymer.

94. (Currently amended) The production method for a hardenable resin composition according to claim 92, wherein a polymer having a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more is prepared by reacting the ~~material~~ polymer with an isocyanate compound, and applying the alcohol treatment to the polymer.

95-98 (Cancelled).

99. (Currently amended) A highly stable polymer comprising a polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present, and then adding an alcohol ~~The highly stable polymer according to claim 55~~, wherein the highly stable polymer contains substantially no acid anhydrine group.

100. (Currently amended) A highly stable polymer comprising a polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present, and then adding an alcohol ~~The highly stable polymer according to claim 55~~, wherein at least a part of the component unit having an acidic group, the component unit having a hydroxyl group and other component units include dint he principal chain contains a benzene ring, and wherein the allowable amount of the acid anhydride is such that the area ratio represented by the acid anhydride group (1,783 to 1,822 cm^{-1})/benzene ring (683 to 721 cm^{-1} is 0.03 or less by the FT-IR spectrum.

101. (Cancelled).

102. (Currently amended) The hardenable resin composition according to claim 103 ~~101~~, containing as the essential component the highly stable polymer obtainable by reacting the alcohol before viscosity rise of a reaction liquid obtained by reacting the isocyanate compound or before completion of viscosity rise of the solution.

103. (Currently amended) A hardenable resin composition containing as the essential component a highly stable polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound having a hardenable reactive group until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm-1, is no longer present, and then reacting the same with an alcohol ~~The hardenable resin composition according to claim 101~~, wherein the highly stable polymer contains substantially no acid anhydride group.

104. (Currently amended) A hardenable resin composition containing as the essential component a highly stable polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound having a hardenable reactive group until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm-1, is no longer present, and then reacting the same with an alcohol ~~The hardenable resin composition according to claim 102~~, wherein at least a part of the component unit having an acidic group, the component unit having a hydroxyl group and other component units included in the principal chain of the highly stable polymer contains a benzene ring, and wherein the allowable amount of the acid anhydride group of the highly stable polymer is such that the area ratio represented by the acid anhydride group (1,783 to 1,822 cm^{-1})/benzene ring (683 to 721 cm^{-1}) is 0.03 or less by the FT-IR spectrum.

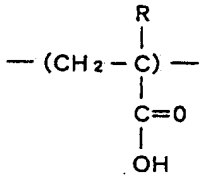
105. (Previously presented) A production method for a hardenable resin composition comprising the steps of reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound having a hardenable reactive group until an isocyanate group, as measured

by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present to form an intermediate product, preparing a solution by dissolving or dispersing the intermediate product in a solvent, adding an alcohol to the solution before viscosity rise of the solution or before completion of viscosity rise of the solution, and leaving or heating the intermediate product applied with the alcohol treatment for a predetermined time for maturation.

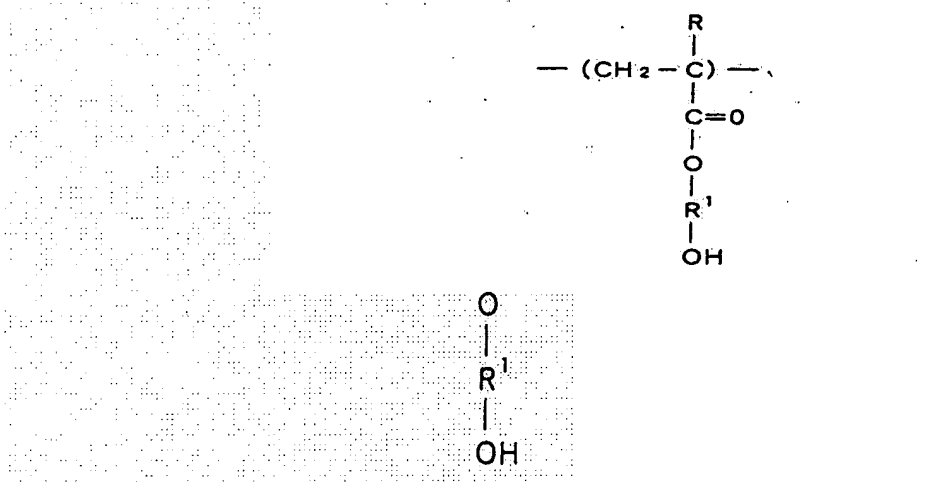
106. (Currently amended) A production method for a hardenable resin composition comprising the steps of reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound having a hardenable reactive group until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present to form an intermediate product, preparing a solution by dissolving or dispersing the intermediate product in a coating solvent, and reacting with an alcohol having a boiling point with a 75°C or less difference with respect to the boiling point of the coating solvent and/or an evaporation rate with a 90(n-BuOAc=100) or less difference with respect to the evaporation rate of the coating solvent, wherein the alcohol is added before viscosity rise of the solution or before completion of viscosity rise of the solution.

107. (New) The highly stable polymer according to claim 99, wherein the principal chain comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below-mentioned formula (2):

Formula (1)



Formula (2)



wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms.

108. (New) The highly stable polymer according to claim 99, wherein the isocyanate compound has a reactive group other than the isocyanate group.

109. (New) The highly stable polymer according to claim 108, wherein the isocyanate group is a radical polymerizable group-containing isocyanate compound.

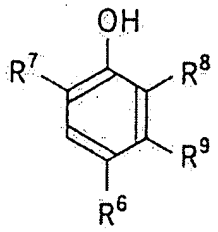
110. (New) The highly stable polymer according to claim 99, wherein the principal chain part of the highly stable resin is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator.

111. (New) The highly stable polymer according to claim 110, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

112. (New) The highly stable polymer according to claim 110, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

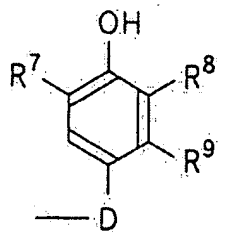
113. (New) The highly stable polymer according to claim 99, wherein the isocyanate compound is introduced in the principal chain part of the highly stable resin, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



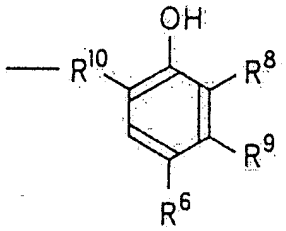
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



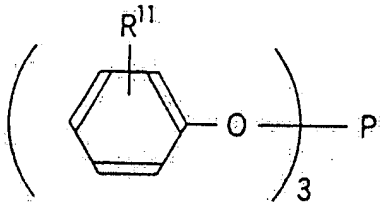
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, and substituents of the same numeral can either be same or different,

Formula (16)



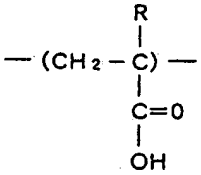
wherein R^{11} is hydrogen or an alkyl group having to 20 carbon atoms.

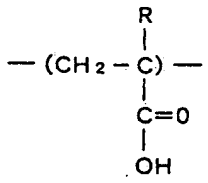
114. (New) The highly stable polymer according to claim 113, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

115. (New) The highly stable polymer according to claim 113, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

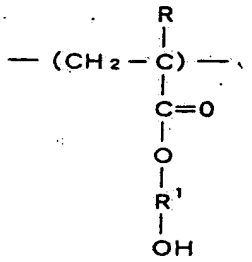
116. (New) The highly stable polymer according to claim 100, wherein the principal chain comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below-mentioned formula (2):

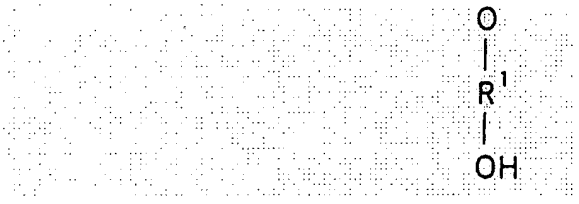
Formula (1)





Formula (2)





wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms.

117. (New) The highly stable polymer according to claim 100, wherein the isocyanate compound has a reactive group other than the isocyanate group.

118. (New) The highly stable polymer according to claim 117, wherein the isocyanate group is a radical polymerizable group-containing isocyanate compound.

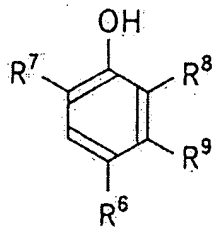
119. (New) The highly stable polymer according to claim 100, wherein the principal chain part of the highly stable resin is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator.

120. (New) The highly stable polymer according to claim 119, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

121. (New) The highly stable polymer according to claim 119, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

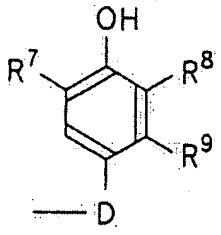
122. (New) The highly stable polymer according to claim 100, wherein the isocyanate compound is introduced in the principal chain part of the highly stable resin, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

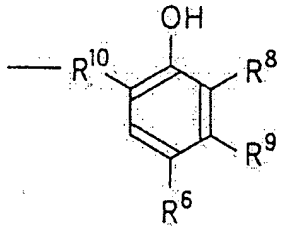
Formula (11)



wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to

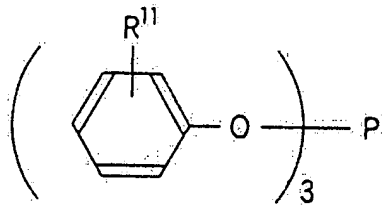
10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, and substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having to 20 carbon atoms.

123. (New) The highly stable polymer according to claim 122, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

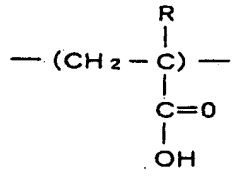
124. (New) The highly stable polymer according to claim 122, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

125. (New) The hardenable resin composition according to claim 104, wherein the hardenable polymer is obtained by reacting the polymer with the isocyanate compound and the alcohol, and further being left or heated for a predetermined time for maturation.

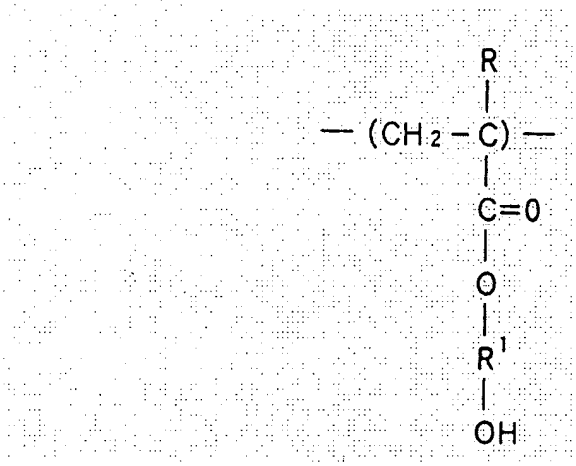
126. (New) The hardenable resin composition according to claim 104, containing as the essential component the hardenable polymer dissolved or dispersed in a coating solvent, wherein the hardenable polymer is obtained by reacting the polymer with the isocyanate compound, and further reacting the same with ,an alcohol having a boiling point with a 75°C or less difference with respect to the boiling point of the coating solvent to be used and/or an evaporation rate with a 90 (n-BuOAc=100) or less difference with respect to the evaporation rate of the coating solvent.

127. (New) The hardenable resin composition according to claim 104, wherein, the principal chain of the polymer comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below mentioned formula (2) :

Formula (1)



Formula (2)



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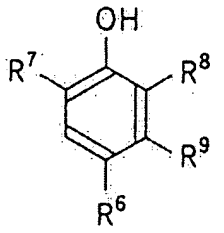
wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms, and

the isocyanate compound is a radical polymerizable group-containing isocyanate compound.

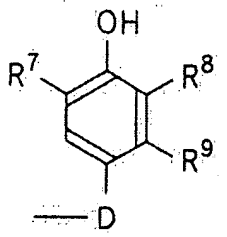
128. (New) The hardenable resin composition according to claim 104, wherein the polymer is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator, and the polymer is reacted with the isocyanate compound, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



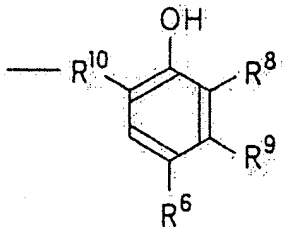
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



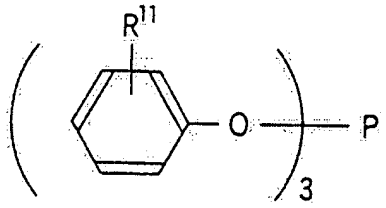
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms, however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, moreover, substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having 1 to 20 carbon atoms.

129. (New) The hardenable resin composition according to claim 128, wherein the hardenable resin polymer has a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm being 60% or more.

130. (New) The hardenable resin composition according to claim 128, wherein the hardenable resin polymer has a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more.

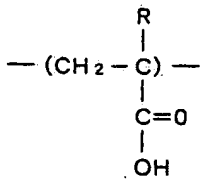
131. (New) The hardenable resin composition according to claim 104, containing as the essential component the highly stable polymer obtainable by reacting the alcohol before

viscosity rise of a reaction liquid obtained by reacting the isocyanate compound or before completion of viscosity rise of the solution.

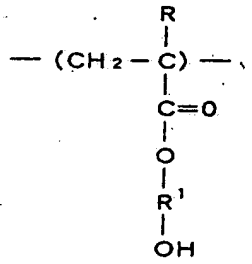
132. (New) A highly stable polymer comprising a polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm^{-1}, is no longer present, and then adding an alcohol of 10 to 120 parts by weight with respect to 100 parts by weight of an intermediate product obtained thereby.

133. (New) The highly stable polymer according to claim 132, wherein the principal chain comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below-mentioned formula (2):

Formula (1)



Formula (2)



wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms.

134. (New) The highly stable polymer according to claim 132, wherein the isocyanate compound has a reactive group other than the isocyanate group.

135. (New) The highly stable polymer according to claim 134, wherein the isocyanate group is a radical polymerizable group-containing isocyanate compound.

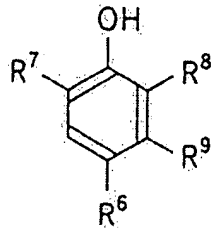
136. (New) The highly stable polymer according to claim 132, wherein the principal chain part of the highly stable resin is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator.

137. (New) The highly stable polymer according to claim 136, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

138. (New) The highly stable polymer according to claim 136, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

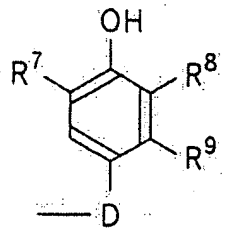
139. (New) The highly stable polymer according to claim 132, wherein the isocyanate compound is introduced in the principal chain part of the highly stable resin, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



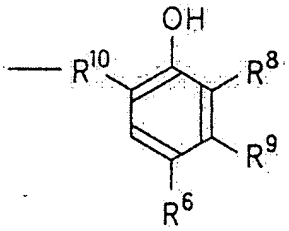
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



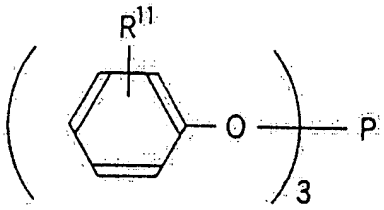
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, and substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having to 20 carbon atoms.

140. (New) The highly stable polymer according to claim 139, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm is 60% or more.

141. (New) The highly stable polymer according to claim 139, wherein the light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm is 50% or more.

142. (New) A hardenable resin composition containing as the essential component a highly stable polymer obtainable by reacting a polymer having a principal chain including at least a component unit having an acidic group and a component unit having a hydroxyl group with an isocyanate compound having a hardenable reactive group until an isocyanate group, as measured by an IR absorption spectrum at a peak of 2,200 cm-1, is no longer present, and then reacting the same with an alcohol of 10 to 120 parts by weight with respect to 100 parts by weight of an intermediate product obtained thereby.

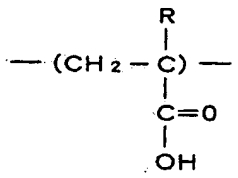
143. (New) The hardenable resin composition according to claim 142, wherein the hardenable polymer is obtained by reacting the polymer with the isocyanate compound and the alcohol, and further being left or heated for a predetermined time for maturation.

144. (New) The hardenable resin composition according to claim 142, containing as the essential component the hardenable polymer dissolved or dispersed in a coating solvent, wherein the hardenable polymer is obtained by reacting the polymer with the isocyanate compound, and further reacting the same with ,an alcohol having a boiling point with a 75°C or less difference

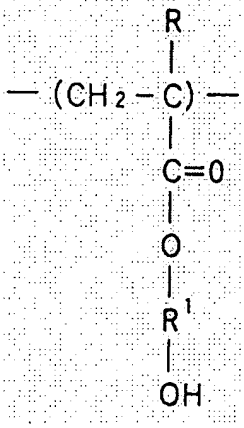
with respect to the boiling point of the coating solvent to be used and/or an evaporation rate with a 90 (n-BuOAc=100) or less difference with respect to the evaporation rate of the coating solvent.

145. (New) The hardenable resin composition according to claim 142, wherein, the principal chain of the ~~material~~ polymer comprises at least a component unit represented by the below-mentioned formula (1) and a component unit represented by the below mentioned formula (2) :

Formula (1)



Formula (2)



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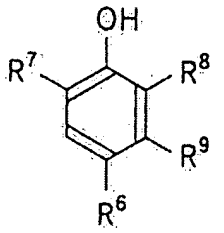
wherein R is hydrogen or an alkyl group having 1 to 5 carbon atoms, and R^1 is an alkylene group having 2 to 4 carbon atoms, and

the isocyanate compound is a radical polymerizable group-containing isocyanate compound.

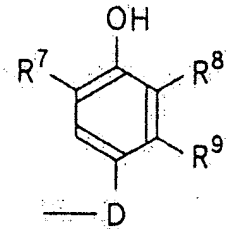
146. (New) The hardenable resin composition according to claim 142, wherein the polymer is formed by polymerization of a compound having a double bond-containing group and an acidic functional group with a compound having a double bond-containing group and a hydroxyl group, using a non-nitrile azo-based polymerization initiator or a peroxide-based polymerization initiator, and the polymer is reacted with the isocyanate compound, using a polymerization inhibitor selected from the group consisting of a phenol-based compound represented by the below-mentioned formula (10) and a phosphite-based compound represented by the below-mentioned formula (16):

Formula (10)



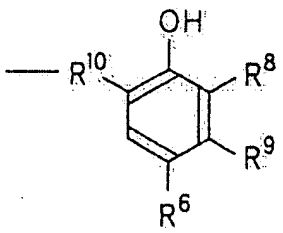
wherein R^6 is hydrogen, an alkyl group having 1 to 5 carbon atoms, or the below-mentioned formula (11):

Formula (11)



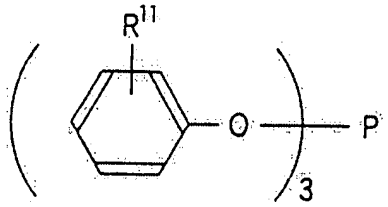
wherein D in the formula (11) is –S-, an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^7 is hydrogen or an alkyl group having 1 to 10 carbon atoms, R^8 is hydrogen, an alkyl group having 1 to 10 carbon atoms, or the below-mentioned formula (12):

Formula (12)



wherein R^{10} in the formula (12) is an alkylene group having 1 to 10 carbon atoms or an alkylidene group having 1 to 10 carbon atoms, R^9 is hydrogen or an alkyl group having 1 to 10 carbon atoms, however, at least one of R^7 and R^8 is a tert-butyl group, or an alkyl group having a cyclohexyl group, moreover, substituents of the same numeral can either be same or different,

Formula (16)



wherein R^{11} is hydrogen or an alkyl group having 1 to 20 carbon atoms.

147. (New) The hardenable resin composition according to claim 146, wherein the hardenable resin polymer has a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 400 nm being 60% or more.

148. (New) The hardenable resin composition according to claim 146, wherein the hardenable resin polymer has a light transmittance of a 3-methoxy butyl acetate solution of a 20% by weight resin solid component placed in a 1 cm square quartz cell at 360 nm being 50% or more.